130O-1

PAINTING, BRUSH & SPRAY

AG 130-O

UNIT OBJECTIVE

After completion of this unit, students will be able to identify the different way to apply paint using a brush or spray gun to different surfaces.

SPECIFIC OBJECTIVES AND COMPETENCIES

After completion of this unit, the student should be able to:

1. Understand proper cleaning procedures for painting tools
2. Name five tools necessary for spray painting.
3. Name the functions on each adjustment found on a spray gun
4. Understand the purpose of surface preparation
5. Understand how to select the right paint for the job

A. Terms and Definitions

1. Alkyd – is a synthetic resin used in paint instead of oil
2. Exterior paint – paint made to be used outside where water may be present
3. Interior Paint – used indoors, protected from rain and other elements
4. Lacquer – a colored (or clear) liquid material used to protect and enhance the appearance of metal
5. Latex-based Paint – water-based paint, tools can easily be cleaned with water
6. Paint – material that colors and protects surfaces
7. Pigment – color of the paint material
8. Polymerization –
9. Primer – a special paint used to prepare the surface for painting
10. Sealer – a material the provides a coating over the surface of wood to keep moisture out
11. Spray Painting – applies the paint in a mist of paint blown on to the surface being painted
12. Varnish – a transparent liquid material used to protect and enhance the appearance of wood
13. Wood Preservative – prevents the decay of wood by rot and insects

SPRAY PAINTING

A. Tools Necessary for Spray Painting

1. Spray Gun
    a. Pressure Gun
    b. Suction Gun
2. Air Compressor
3. Paint Pressure Tank
4. Hose
    a. Air
    b. Paint
5. Air Control Device
    a. Pressure Gauge
    b. Regulator

B. Adjustment for Spray Guns

1. Spreader – controls air to holes which regulates size of spray pattern
2. Fluid Adjustment – controls the travel of the fluid needle which allows more or less material through the fluid tip
3. Procedures for adjusting spray gun

    a. Open spreader adjustment valve
    b. Open fluid needle screw
    c. Check air leaks
    d. Connect hose to cup
    e. Remove nozzle
    f. Press trigger until paint passes through gun
    g. Replace nozzle and set pressure

C. Prepare paint for spray painting, procedure

1. Shake paint can to mix the material or use a mixing stick, paint stores have a mechanical shaker
2. Pour paint through a strainer into the spray gun cup
3. Add thinner until the paint becomes thin enough to drip off the mixing stick like milk.

D. Using the Paint Gun

1. Hold the spray gun 6 to 10 inches away from the surface to be painted. If the spray gun is help any further away the paint tends to dry before reaching the surface.
2. Start with the gun pointing off to the side and move into the area to be painted, move the gun along the area to be painted and stop painting after you moved off the end.
3. Overlap half of the previous pass.

E. Cleaning the Paint Gun

1. Pour remaining paint back into the paint can
2. Add one ounce of thinner to the cup to rinse the paint, pour the remainder into the paint can
3. Use a paper towel to wide out the remaining paint in the cup
4. Add thinner to the cup and spray thinner through the spray gun until the thinner comes out clear
5. Use the remaining thinner in the cup to wipe any excess paint off the spray gun

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PAINTING WITH A BRUSH

A. Brushes

1. Brushes are classified by:

a. Width – 3 to 4 inches in painting wall and 1 to 2 inches for painting trim
b. Bristle and Foam – most bristles are made of nylon and clean easily after use, foam brushes are intended to be thrown away after being used
c. Handle – select brushes with long comfortable handles easy to grip
d. Kind of Paint – most brushes can be used for most types of paint, select a brush for the kind of paint being used

B. Caring for the Brush

1. Cleaning

a. Brushes used to apply water-based paints can be cleaned by holding them under running water.
b. Work the bristles by hand until the clean water comes out of the bristles.
c. Brushes can be washed in a container with a mild dish washing detergent.
d. Brushes used to apply oil-based paint should be cleaned in paint thinner
d. Hang by the handle to dry

2. Storage

a. Store brushes in their original container to protect its' shape
b. Brushes can be stored wrapped in paper
c. Bristles bend out of shape make it more difficult to paint

C. Using a Brush

1. Hold the brush lightly, keeping the arm and wrist muscles relaxed to avoid fatigue.
2. Dip the brush into paint about one-third the length of the bristles
3. After dipping, rub the brush gently against the inside surface of the paint can to remove excess paint
4. Paint section of a wall in 2-foot square foot sections, paint wood with the grain

D. Paint volume

1. One gallon of paint can generally cover 400 square feet, using section 130C as a guide you can figure how many square feet are in a room, minus the doors and windows

A. Surface Preparations

1. Wood

a. The surface must be clean and any holes must be filled and sanded before painting
b. Moldy areas on wood must be cleaned with bleach. 1-2 cups per gallon of water
c. Remove any old paint the is pealing or loose
d. The surface should be thoroughly dry before painting

2. Metal

a. Metal should be free of rust and corrosion before painting can begin
b. Machinery can be steam cleaned to remove grease, dirt, and oil
c. Use only paints that are made for metal

B. Selection of Paint

1. Wood

a. Interior Paint
b. Exterior Paint

2. Metal
3. Read the label on the paint container for list of applications

References:

Cooper, Elmer L. (1997). AGRICULTURAL MECHANICS: FUNDAMENTALS AND APPLICATIONS, 3ed EDITION. Albany, NY: Delmar Publishers.

Phipps, Lloyd J., and Miller, Glen M.(1998) AGRISCIENCE MECHANICS. Danville, IL: Interstate Publishing

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PARTS OF A SPRAY GUN